

Acoustic Monitoring for Spaceflight Vehicle Applications, Phase I

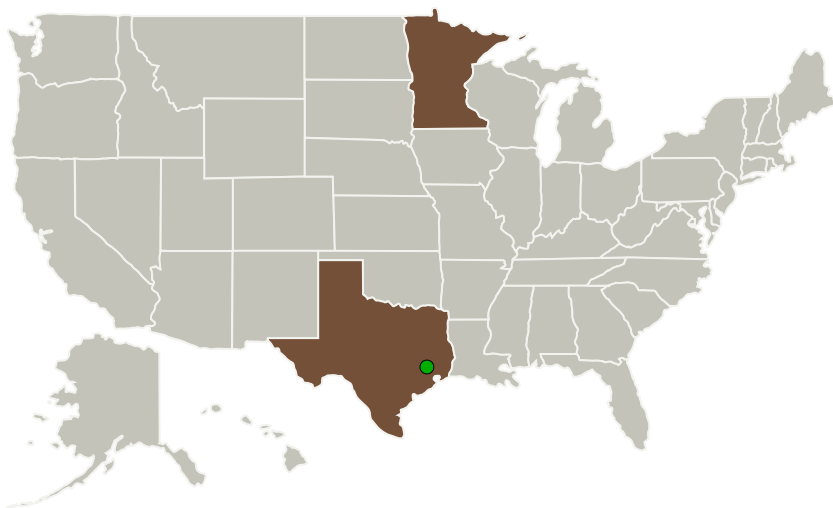
Completed Technology Project (2011 - 2011)




Project Introduction

This SBIR will develop and demonstrate acoustic sensor technology enabling real-time, remotely performed measuring and monitoring of sound pressure levels and noise exposure levels in long-duration space vehicles. The acoustic sensor technology developed will enable a network of continuously monitored, real-time acoustic sensors providing sound pressure level information as a function of frequency and/or time at multiple locations for the current International Space Station (ISS) and future long duration spaceflight missions. The phase I will show the feasibility for the phase II to develop the software and hardware of an acoustic monitor to a TRL 6 level. In phase II a demonstration unit and its software package will be delivered to NASA for their testing. A phase II demonstration will be done in JSC Acoustics and Noise Control Lab (ANCL) so that testing can be performed in the ISS Acoustic Mockup.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Advanced Medical Electronics Corporation	Lead Organization	Industry	Maple Grove, Minnesota
 Johnson Space Center(JSC)	Supporting Organization	NASA Center	Houston, Texas



Acoustic Monitoring for Spaceflight Vehicle Applications, Phase I

Table of Contents

Project Introduction	1
Primary U.S. Work Locations and Key Partners	1
Project Transitions	2
Organizational Responsibility	2
Project Management	2
Technology Maturity (TRL)	2
Technology Areas	3
Target Destinations	3

Acoustic Monitoring for Spaceflight Vehicle Applications, Phase I

Completed Technology Project (2011 - 2011)



Primary U.S. Work Locations

Minnesota

Texas

Project Transitions

 **February 2011:** Project Start

 **August 2011:** Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/137941>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Advanced Medical Electronics Corporation

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

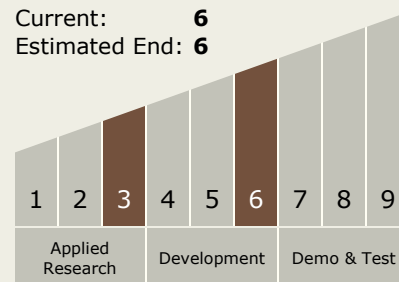
Gary Havey

Technology Maturity (TRL)

Start: **3**

Current: **6**

Estimated End: **6**



Acoustic Monitoring for Spaceflight Vehicle Applications, Phase I

Completed Technology Project (2011 - 2011)



Technology Areas

Primary:

- TX10 Autonomous Systems
 - └ TX10.1 Situational and Self Awareness
 - └ TX10.1.2 State Estimation and Monitoring

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System